

No. X.—Heavy rains and southeasterly winds prevailed in Texas during the evening of the 24th; nearly five inches of rain falling at Galveston. During the 25th very heavy rains and northerly to easterly winds prevailed along the Gulf coast from Indianola to Mobile, and possibly a slight depression existed in the Gulf of Mexico, which passed northeastward over northern Florida to the coast of North Carolina, by 11 p. m., of the 26th, as indicated by track No. X. St. Marks reports on the 26th in the afternoon a wind velocity of 40 miles.

No. XI.—This area is first noticed on chart No. II in Colorado, at 11 p. m., of the 27th; passed rapidly eastward over Kansas, and thence northeastward to Lower Michigan by 11 p. m., of the 28th, and thence to the Gulf of St. Lawrence, where it was central on the night of the 29th. This depression was remarkable for its rapid progress only until it reached the lower St. Lawrence valley, where a southwest gale prevailed during the afternoon and night of the 29th.

No. XII.—This depression appeared north of Lake Superior on the 30th, progressed eastward and, at 11 p. m., of the 31st, was north of the lower St. Lawrence valley, but its track was too far to the north to be charted.

Storms at Sea.—The following notes have come to hand relative to storms at sea: On the 1st, hurricane at 27° 32' N. and 84° 3' W.; also, 26° 30' N. and 84° W. 2d, hurricane, 29° 22' N. and 84° 14' W.; gale, 49° 11' N. and 37° 48' W. 3d, gale, 53° 23' N. and 30° 03' W.; terrific gale at 34° 53' N. and 56° 30' W. 4th, violent gale, 40° 27' N. and 69° 43' W.; hurricane at 44° 30' N. and 69° 20' W.; gale, 51° 45' N. and 34° 50' W. 5th, gale, 35° 40' N. and 69° W. 6th, storm, 40° 32' N. and 69° 20' W. 7th, gale, 42° N. and 58° 05' W. 8th, gale, 41° 36' N. and 61° 10' W. 12th, gale, 47° N. and 46° 55' W. 14th, hurricane off Irish coast. 15th, gale, 55° 29' N. and 11° 20' W. 17th, gale, 33° 30' N. and 50° 57' W.; hurricane, 39° 14' N. and 56° 8' W. 19th, gale, 51° 32' N. and 40° 36' W. 20th, violent storm, 45° 14' N. and 39° 17' W. 21st, gale, 48° 08' N. and 34° 10' W. 22d, gale, 47° 29' N. and 39° 31' W. 24th, strong gale, 47° 54' N. and 45° 06' W.; gale, 48° 38' N. and 45° 30' W. 25th, hurricane, 49° 38' N. and 39° 42' W.; furious gale, 48° 35' N. and 28° 40' W. 27th, furious gale, 48° 09' N. and 24° W. 28th, furious gale, 48° 04' N. and 36° 10' W. 29th, heavy gale, 49° 31' N. and 35° 26' W. 31st, strong gale, 47° 44' N. and 43° 46' W.

TEMPERATURE OF THE AIR

In General.—The distribution of the temperature of the air is shown by the isotherms on chart No. II. The table of comparative temperatures in the left-hand corner of the same chart, shows the month to have been warmer than usual over the whole country, except Canada, a portion of the Upper Missouri valley, Pacific coast and Rocky Mountain stations. Occasional voluntary observers, whose records extend back for many years, report, as follows: Geneseo, Ill., mean temperature of the month, 4° 2 above the mean for 16 years; Yevay, Ind., a mild, dry month; Martinsville, Ill., one of the warmest and driest on record; Gardiner, Me., the average temperature is 1° 55 below the average for the past 41 years; Plattsmouth, Neb., monthly average is 0.7 below the average for many years; Centocookville, N. H., monthly average is 1° 3 above the average for many years; Cooperstown, N. J., the mildest October in 20 years; Volney, N. J., remarkable autumn; Newark, N. J., monthly mean is 3° above the average for 34 years; Williamsport, Pa., monthly mean 3° 6 above the average of 5 years; Tioga, Pa., warmest October for 11 years; Woodstock Vt., warmest October in 10 years. The month was, however, especially notable for the absence of severe frosts and the consequent development of the growth of vegetation.

Monthly mean temperatures at special points, have been, as follows: Mt. Washington, 31° 6; Pike's Peak, 17° 0, Pembina, 40° 0.

Maximum and Minimum Temperatures.—Maximum temperatures, above 90°, are reported, as follows: 93° at Indianola; 94, Red Bluff; 95, Denison; 96, Mason; 98, Corsicana; 99, San Antonio; 101, Eagle Pass; 104, Brackettville.

Minimum temperatures below 25° have been reported as follows: 25° at Salt Lake City; 23°, North Platte; 21°, Boise City; 20°, Santa Fe; 19°, Pembina; 16°, Breckenridge; 14°, Winnemucca; 10°, Mt. Washington; 3°, Cheyenne; —6°, Pike's Peak.

Ranges of Temperature.—Large monthly and diurnal ranges have been respectively as follows: Brackettville, monthly, 68°, diurnal, 40°; Breckenridge, 54° and 42°; Cheyenne, 74° and 58°; Denver, 63° and 44°; Dodge City, 61° and 40°; Eagle Pass, 60° and 39°; Pembina, 49° and 42°; Winnemucca, 65° and 47°; Yankton, 48° and 40°. The smallest ranges have been: Cape Lookout, monthly, 28°, diurnal, 16°; Cape May, 29° and 18°; Charleston, 28° and 18°; Key West, 17° and 12°; New Orleans, 31° and 16°; Pike's Peak, 49° and 19°; Savannah, 33° and 20°; Tybee Island, 31° and 18°.

Frosts were reported by voluntary observers as follows: On the 1st in N. Y.; 3rd, W. Va.; 4th, Dak., Ill.,

Iowa, Kan., Minn., Mo., Neb.; 5th, Ark., Ga., Ill., Ind., Iowa, Kan., Ky., Md., Mich., Minn., Neb., N. C., Ohio, Pa., Tenn., Wis.; 6th, Ark., Conn., Dak., Del., Ga., Ill., Ind., Iowa, Ky., Me., Md., Mass., Mich., Minn., Neb., N. H., N. J., N. Y., N. C., Ohio, Pa., S. C., Tenn., Vt., W. Va., Wis.; 7th, Conn., Me., Md., Mass., Mich., Neb., N. H., N. J., N. Y., N. C., Ohio, Pa., Tenn., Utah, Vt., W. Va.; 8th, Conn., Kan., Mass., Mo., Neb., N. H., N. J., N. Y., Utah; 9th, Mass., Ohio; 10th, Iowa, Kan., Mo., Neb., N. C., Ohio, Va., Cal.; 11th, Ill., Ind., Iowa, Ky., Mo., Wis.; 12th, Ill., Ind., Ky., Mich., N. C., Ohio, Tenn., Wis.; 13th, Md., N. C., Tenn.; 14th, Me., Md., Mass., N. H., N. Y., N. C.; 15th, Ohio; 16th, Utah; 17th, Conn., Me., Mass., N. Y., Utah Ty., Vt.; 18th, Me., Mass., Utah Ty., Vt.; 19th, Ill., Utah Ty.; 20th, Dak., Me., Neb., Utah Ty., Wis.; 21st, N. Y., Ill., Iowa, Kan., Mo., Neb., Utah Ty., Wis.; 22nd, Ark., Ill., Ind., Iowa, Kan., Mich., Miss., Neb., N. H., N. Y., Ohio, Tex., Wis.; 23rd, Ark., Tenn., Conn., Del., Ill., Ind., Kan., Md., Mass., N. H., N. J., N. Y., N. C., Ohio, Pa., S. C., Va., W. Va.; 24th, Ga., Ill., N. C., Ohio, S. C., Tenn.; 25th, N. H., N. Y., N. C.; 26th, N. Y., N. H., Pa., Vt.; 27th, N. Y., Mass., N. H., Utah Ty., Vt.; 28th, Conn., Mass., N. H., N. Y., Vt.; 29th, Ill., Iowa, Mo., Neb., N. H., Utah Ty., Wis.; 30th, Ill., Ind., Iowa, Neb., N. H., N. J., Ohio, Utah Ty., Wis.; 31st, Conn., Ill., Mass., Mich., Mo., Neb., N. H., N. Y., Ohio, Wis.

The frosts just enumerated were generally light, and the remarkable lateness of severe frosts is thus commented on by a few observers: at Vail, Iowa, on the 31st orange leaves still green; Fall River, Mass., cherry blossoms picked on the 21st; Freehold, N. J., wild violets in bloom on the 14th; Waterburg, N. Y., second crop of raspberries has been gathered; North Volney, N. Y., no killing frost up to the end of the month; Flushing, N. Y., apple trees in bloom and grass as green as in spring; Murphy, N. C., 31st, nothing injured by frost, beans in full bloom; Ringgold, Ohio, 31st, no severe frost as yet, vegetation uninjured; Chambersburg, Pa., no frost during the month, but a severe one Nov. 1st; Austin, Tenn., no heavy frost yet; Green Castle, Pa., flowers, tomatoes, pumpkins and locust trees are in bloom, no injurious frosts; Hulmerville, Pa., 24th, tomatoes ripe, and pepper plants in bloom; Lynchburg, Va., no frost during the month, tobacco almost matured for a second crop; Strafford, Vt., raspberries plentiful and ripe on the 15th, and strawberries in bloom, may-flowers seen on the 17th; Woodstock, Vt., colors of autumn foliage at their height one week later than usual; West Charlotte, Vt., red raspberries ripe 14th and 15th, dandelions in bloom on the 18th.

Ice was formed generally in connection with severe frost as follows: On the 3rd, Idaho; 4th, Dak., Iowa and Neb.; 5th, Minn., Dak. and Ill.; 5th, Iowa and Wis.; 7th, Mass., N. Y. and Utah Ter.; 8th, Utah Ter.; 10th, Neb.; 12th, Mich.; 16th, Utah Ter.; 19th, Me.; 20th, Iowa and Neb.; 21st, Iowa, Kansas, Mich. and Neb.; 22d, Ill.; 23d, Me.; Conn., Mass., N. Y. and R. I.; 26th, Me.; 27th, N. H., Me. and Vt.; 28th, Conn., Mass., N. H., Idaho, Me. and Vt.; 30th, Neb. and Wis.; 31st, Mass. and Neb.

PRECIPITATION.

In General.—The general distribution of rain for the month is shown on chart No. III. The table in the lower left-hand corner gives the average precipitation in the various districts, and shows a very large excess in the Gulf and Atlantic States, the Upper Lake region, Northwest and in Oregon. This excess is to a great degree owing to the precipitation attending storms Nos. I, VII and X.

Special Heavy Rain.—The following notable cases of heavy rains that have been reported: 1st, Jacksonville, Fla., 8.29 in.; Quitman, Ga., (1st, 2d, 3d,) 8.90 in.; St. Marks, Fla., (1st, 2d, 3d,) 7.28 in.; 3d, Charleston, N. C., 1.75 in.; Duluth, Mich., 1.51 in.; Tybee Island, Ga., (2d, 3d,) 2.65 in.; Augusta, Ga., 2.13 in.; Savannah, Ga., 2.93 in.; Oglethorpe Bks., Ga., 2.56 in.; Mt. Forest, Canada, 2.33 in.; Mayport, Fla., 6.32 in., making a total of 11.08 in. in 10 days. 4th, Baltimore, Md., 2.74 in.; Cape Lookout, N. C., 1.85 in.; Lynchburg, Va., (3d, 4th,) 5.43; New Haven, Conn., (4th, 5th,) 4.05 in.; New York City, 4.02 in.; Philadelphia, Pa., 2.73 in.; Springfield, Mass., (4th, 5th,) 3.77 in.; Wilmington, N. C., (3d, 4th) 2.55; Washington, D. C., 3.98 in.; Gainesville, Ga., 2.30 in.; Fort Whipple, Va., 4.30 in.; Sandy Hook, N. J., 3.26 in.; Willets Point, N. Y., 2.17 in.; Accotink, Va., 4.00 in.; Barnegat, N. J., 2.08 in.; 5th, Boston, Mass., 4.00 in.; New London, Conn., 2.77 in.; Newport, R. I., 2.03 in.; Portland, Me., 1.71 in.; Thatcher's Island, Mass., 3.19 in.; Fort Adams, R. I., 2.90 in.; Fort Hamilton, N. Y., (4th, 5th,) 4.90 in.; 7th, Denison, Tex., 2.02 in.; 8th, Alpena, Mich., 2.06 in.; Fort Hamilton, N. Y., (8th, 9th,) 2.06 in.; 9th, Cape May, N. J., 1.97 in.; Philadelphia, Pa., 2.17 in.; Willets Point, N. Y., 1.25 in.; Barnegat, N. J., 2.83 in.; 10th, Eastport, Me., 2.05 in.; Alpena, Mich., (10th, 11th,) 5.17 in.; 11th, Buffalo, N. Y., 2.03 in.; 13th, in vicinity of San Diego, Cal., first rain of season occurred, being the heaviest rainfall for twenty years; it seems to have passed from the southeast to northwest over a tract of country thirty to forty miles wide, extending from the coast far beyond the mountains to the northeast. 14th, Beckenridge, Minn.; 2.25 in.; Denison, Texas, 4.00 in.; 15th, Fort Gibson, Indian Ter., 1.81 in.; Galveston, Tex., (15th, 16th,) 3.68 in.; Fort Sill, Ind. Ter., 3.28 in.; 16th, Corsicana, Texas, 2.12 in.; Indianola, Texas, 4.11 in.; Shreveport, La., 2.29 in.; Baton Rouge Bks., La., 2.05 in.; 18th, Baton Rouge Barracks, 6.70 in.; 19th, Chicago, Ill., 2.19 in.; Detroit, Mich., 2.02 in.; Anna, Ill., 2.88